

# **COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION MOUTH OF THE COLUMBIA RIVER NORTH JETTY REPAIR PACIFIC COUNTY, WASHINGTON**

## **Introduction**

The Mouth of the Columbia River (MCR) deep-draft navigation project consists of a 1/2-mile wide navigation channel extending for about six miles through a jettied entrance (3 miles seaward and shoreward of the tip of the North Jetty) between the Columbia River and the Pacific Ocean (Figure 1). The channel was deepened to its present depths in 1984 and has been maintained at those depths to date. The northerly 2,000 feet of the channel is maintained at 55 feet and the southerly 640 feet is maintained at 48 feet, with an additional 5 feet of depth allowed for advanced maintenance.

The Columbia River estuary is a tidal estuary approximately five miles wide, north to south, at the mouth and about one mile wide above rivermile (RM) 30. The estuarine environment extends about 38 miles upriver. The ocean entrance to the river is protected by two jetties (Figure 1), whose tips are about two miles apart.

The North Jetty at the Mouth of the Columbia River was constructed to secure the Federal navigation channel through the ocean entrance to the Columbia River. The North Jetty is about 2.5 miles long and was constructed in 1914-1917. About 1,700 feet of head loss has occurred (Figure 2). These existing project features were authorized by the River and Harbor Acts of 5 July 1884, 3 March 1905, and 3 September 1954. The oceanward portion of the North Jetty was the last repaired and completed in 1965 with the placement of 136,935 tons of stone. The jetty was constructed at the entrance to the Columbia River to help confine tidal currents to obtain scouring velocities in the bar and entrance channels, to help maintain the authorized channel location dimensions, and to help protect vessels entering and exiting the river. The North Jetty has experienced damage to the jetty heads and along the jetty at several locations since it was last repaired.

## **Proposed Actions**

The basic premise of this phase in jetty rehabilitation is to repair the most vulnerable areas of the north and south jetties, where the consequences of jetty failure (a breach through either jetty) would rapidly and significantly degrade navigation through the mouth of the Columbia River. The intent of the proposed design concept will be three-fold: 1) Improve the stability of the foundation (toe) of each jetty as affected by scour, 2) Improve the side slope (above and below water) stability of each jetty as affected by classical static slope stability criteria, 3) Improve the dynamic stability of each jetty as affected by wave forces impinging the jetties.

Along the reach of the North Jetty proposed for repair, 70 percent of the repair area has not been repaired since its original construction in 1917. The remaining 30 percent was last repaired in 1965, 39 years ago. Scour of the seabed along the channelside of the North Jetty has resulted in

increased depths of 10 to 40 ft, impacting not only the stability of jetty foundation but also wave impact on the already vulnerable jetty cross section.

The proposed jetty repair work would be conducted by marine and/or land access activities. For marine-based delivery and placement of stone the contractor will be provided with three options: marine-based using a tow boat and barge, a barge off-loading platform and land based operations bringing in material via existing park roads.

### *Tow Boat and Barge*

A tow boat and barge would deliver the stone to either jetty, where water depth, wave, and current conditions permit. During stone off-loading, the barge may be secured to four to eight dolphins situated within 200 feet of the jetty. The dolphins would be composed of multiple untreated timber piles driven to depth of 15-25 feet below grade, by a vibratory pile hammer or similar equipment. An impact hammer may be used at the final driving to ensure pilings are driven properly. The dolphins will be relocated as work advances along the jetty and would be removed at the conclusion of the work. The maximum number of dolphins present along the North Jetty during any one time during the work is estimated to be 10 to 20. Stone would be off-loaded from the “stone barge” by a crane (either land or marine based) and either placed directly within the jetty work or stock piled on the jetty crest for placement at a later time.

For marine-based stone placement, a lattice boom crane or large track hoe excavator would be fixed to a moored barge. The crane barge would be moored using either a series of anchors or the barge would be lashed to four to eight dolphins paralleling the jetty work area (same concept for a marine-based stone delivery). The marine-based crane would pick stones either directly from the stone barge or from stones stock-piled on the jetty crest and place the stones into the work area. The crane would advance along the jetty as work is completed.

### *Barge Off-loading Platform*

The barge off-loading platform for the North Jetty would be an enclosed cell structure constructed of sheet piles requiring the placement of about 12,000 tons of rip rap and quarry waste (crushed gravel) within the structure (Figure 3 – Cross Section for Barge Off-loading Platform). Three inches of compacted material will be placed on top of the crushed gravel to form a road that will provide a stable surface for vehicles to load jetty stones. Upon completion of the project, the material will be removed using a crane and other removal equipment and trucked off-site to a location to be determined by the contractor. Construction of this road may be built within a wetland area. The fill material will be quarry waste and removed upon completion of construction. The total wetland area that may be impacted within the footprint of the jetty would be approximately 0.10 acres and outside the jetty footprint would be approximately 0.15 to 0.25 acres. Upon completion of the construction project, the area impacted will be restored to its preexisting condition. Since the impact area to the wetlands outside the footprint of the jetty is minimal, no mitigation will be necessary.

Access ramps will be removed following construction.

### *Land-based Placement*

For land-based stone placement, a lattice boom crane or large track hoe excavator would be situated on top of the jetty. A land based placement operation could require two access roads that would ramp up to the jetty crest. Jetty access roads associated with this phase of the rehabilitation would be located above MHHW.

For the North Jetty, marine or land based activities would be used to delivery armor stone and fill stone to the project site. The contractor will be presented with either the marine or land based option and the decision will be at the discretion of the contractor. Heavy equipment would access the site via an existing asphalt surfaced road to the Benson Beach Parking lot at Cape Disappointment State Park (Figure 4). A work area for equipment and possible rock storage, about five acres would be located near the parking lot and across from the potential barge off-loading site. Two rock access roads and ramps would be constructed, and removed once the jetty is repaired. The access road, about 400 feet in length and 25 feet wide, would be constructed of 4,000 cy of sand, gravel and small rip rap and located above MHHW on beach sand.

Repair work will commence on the North Jetty before similar activities are begun on the South Jetty. Unless otherwise directed by the Corps, the work along the North Jetty will be left to the contractor's discretion. Where weather and other conditions allow, the work could occur throughout the year (winter, summer, fall, spring). Conditions that could shut down work on the jetty are wave direction and height. For the North Jetty, 14 foot waves at high tide and 18 foot waves at low tide would halt construction. Winds gusting to about 35 knots would cause boom crane operation to stop. The duration of stone placement activities for completing repairs for the North Jetty is estimated to be eight months.

Repair of the North Jetty is not expected to interfere with the dredging and disposal activities associated with the annual maintenance of the MCR navigation channel, including use of the North Jetty dredged material disposal site. Use of the North Jetty disposal site would be coordinated with the marine delivery of stone such that the use of the North Jetty site during jetty construction would not be impacted.

### **Consistency Review**

The Coastal Zone Management Act (CZMA) requires states to identify "Enforceable Policies." Washington's authorities and their implementing regulations contain the states Coastal Zone Management Program's (CZMP) enforceable policies:

- The Shoreline Management Act (SMA)
- The Clean Water Act (CWA)
- The Clean Air Act (CAA)
- The State Environmental Policy Act (SEPA)
- The Energy Facility Site Evaluation Council law (EFSEC)
- The Ocean Resources Management Act (ORMA)
- Local Shoreline Master Programs

## Shoreline Management Act, chapter 90.58 RCW

The Shoreline Management Act (“SMA”), chapter RCW 90.58 RCW is the core authority of Washington’s Coastal Zone Management Program.

### *State Policy*

RCW 90.58.020 enunciates the following state policy:

- To provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses.
- To insure the development of shorelines in manner that promotes and enhances the public interest while allowing only limited reduction of rights of the public in the navigable waters.
- To protect against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights.

The Project is consistent with this broad statement of policy. As discussed in detail under the discussion of Shorelines of Statewide Significance, the Project improves and stabilizes the federally authorized jetties and enhances the navigability of this water body and public interest.

### *Shorelines of Statewide Significance*

The SMA establishes use preferences for shorelines of state-wide significance. The Project is consistent with the criteria for activities within shorelines of statewide significance as follows:

1. Recognize and protect the statewide interest over local interest.

The Project furthers the interests of Washington and recognizes the statewide, regional, and national interests in interstate commerce over local interests. The primary substantive requirement for a jetty is that it be designed to minimize adverse impacts on water currents, erosion, and accretion patterns. Given the accelerated rate of deterioration at the north jetty, the repair of the jetty will reduce the hazard to human life and property and as described in the attached Environmental Assessment (EA). The affects to fish and water quality, as a result of the repair, will be minimal.

2. Preserve the natural character of the shoreline and minimize man-made intrusions on shorelines.

The North Jetty contains badly deteriorated areas where degradation has accelerated in recent years due to increased storm activity and loss of sand shoal material, upon which the jetties are constructed. Breaching near the shoreline would allow sand to migrate into the Columbia River

navigation channel, thereby disrupting deep draft navigation and increasing dredging requirements and causing severe damage to nearby beaches. Within the next five (5) years there is a high likelihood that a significant breach will occur on either jetty. The likelihood of a jetty breach will continue to increase with time.

An emergency repair of the jetty within the next few years is highly probable. Waiting for the jetty to breach would be problematic since repairs could not necessarily be made during the winter. Costs to repair following a breach, as well as impacts, are estimated at two to five times higher than if completed prior to the failure.

### 3. Plan for long term over short term benefit.

The long term benefit to the local area and the region would be recognized by the repair of the North jetty. As stated above, if the jetty is not repaired and breached the damage to Benson Beach would be significant and repairs could be hindered if the breach occurred during the winter months. Figure 5 depicts the amount of material that potentially could be dispersed into the channel in the event of a breach.

### 4. Protect the resource and ecology of the shoreline.

The environmental impacts associated with the proposed action would be minor because the rehabilitation work is to an existing structure within a limited area within the original footprint and will not impact any significant benthic habitat. Some short-term loss of microhabitat will occur during the construction period but will be replaced by the completion of the proposed action. The North Jetty will require approximately 30,000 tons of stone placed over the existing rock to complete this task.

The proposed activity is expected to have minimal effects on fish and wildlife species of the area. An increase in suspended sediments in the water column is expected during the construction period; however, this impact is expected to stay within acceptable levels for fish and wildlife species of concern. Disturbed material would primarily be sand, which would settle quickly. Avoidance of the area may occur throughout the construction period as a result of the increased activities and noise. This impact is highly localized and all species would be expected to return following project completion. No significant affects on any listed/candidate threatened or endangered species are anticipated. Construction is expected to occur year-round. Though some work would occur during appropriate in-water work periods determined by fishery agencies to minimize impacts to fish, wildlife and habitat; most of the work would occur outside these periods. The impact to this is expected to be minimal since the jetties do not provide highly valuable habitat.

### 5. Increase public access to publicly owned areas of the shorelines.

The North jetty repairs will temporarily limit access to Benson Beach via the parking lot. The limited access will last for approximately eight months. Upon completion of the project, the disturbed area will be restored to its previous condition.

6. Increase recreational opportunities for the public on the shorelines.

By repairing the North Jetty, long-term recreational opportunities on Benson Beach will be maintained. As stated above, a breach in the jetty would cause severe erosion of the beach and the material would be lost into the channel.

#### *General Use Preferences*

RCW 90.58.020 also states that alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, port, shoreline recreations uses, and other improvement facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state.

The Project is consistent with this general use preference. The Project's repair components are generally occurring in areas that have been previously altered.

#### The Clean Water Act

The Corps has submitted an application for water quality certification.

#### Washington Air Quality Requirements

The repair project does not require an Air Quality Permit.

#### State Environmental Policy Act (SEPA)

Exempt

#### The Energy Facility Site Evaluation Council law (EFSEC)

The repair project does not require an EFSEC permit.

#### Ocean Resources Management Act, RCW chapter 43.143, WAC 173-16-064.

RCW 43.143.030 – Planning and project review criteria

(1) When the state of Washington and local governments develop plans for the management, conservation, use, or development of natural resources in Washington's coastal waters, the policies in RCW [43.143.010](#) shall guide the decision-making process.

(2) Uses or activities that require federal, state, or local government permits or other approvals and that will adversely impact renewable resources, marine life, fishing, aquaculture, recreation, navigation, air or water quality, or other existing ocean or coastal uses, may be permitted only if the criteria below are met or exceeded:

*(a) There is a demonstrated significant local, state, or national need for the proposed use or activity;*

As stated above, the North Jetty contains badly deteriorated areas where degradation has accelerated in recent years due to increased storm activity and loss of sand shoal material, upon which the jetties are constructed. Breaching near the shoreline would allow sand to migrate into the Columbia River navigation channel, thereby disrupting deep draft navigation and increasing dredging requirements and causing severe damage to nearby beaches. Within the next five (5) years there is a high likelihood that a significant breach will occur on the jetty. The likelihood of a jetty breach will continue to increase with time.

The impacts to Cape Disappointment State Park if the jetty is not repaired could be the loss of Benson Beach along with the parking lot and the recreational opportunities that these areas offer the public.

*(b) There is no reasonable alternative to meet the public need for the proposed use or activity;*

The no-action alternative presented in the Environmental Assessment is not acceptable due to the chances of the jetty failing within the next few years.

*(c) There will be no likely long-term significant adverse impacts to coastal or marine resources or uses;*

There will be no long-term significant adverse impacts to coastal or marine resources or uses.

*(d) All reasonable steps are taken to avoid and minimize adverse environmental impacts, with special protection provided for the marine life and resources of the Columbia river, Willapa Bay and Grays Harbor estuaries, and Olympic national park;*

The repair work on the North Jetty, placement of temporary wooden dolphins in the water near the jetty, the barge off-loading platform and the staging area at the parking lot will not have a significant impact on the resources in the area and the disturbed areas will be returned to their normal condition upon completion of the project.

The primary substantive requirement for a jetty is that it be designed to minimize adverse impacts on water currents, erosion, and accretion patterns. Given the accelerated rate of deterioration at the North Jetty, the repair of the jetty will reduce the hazard to human life and property and as described in the attached Environmental Assessment (EA). The affects to fish and water quality, as a result of the repair, will be minimal.

*(e) All reasonable steps are taken to avoid and minimize adverse social and economic impacts, including impacts on aquaculture, recreation, tourism, navigation, air quality, and recreational, commercial, and tribal fishing;*

If the jetty was not repaired, the economic impact to the local community could be devastating. A significant portion of Benson Beach would be lost to the channel and the impacts

on aquaculture, recreation, tourism, navigation, recreational and commercial fishing would be severely impacted for an undetermined amount of time.

Recreational crabbing along the channel side of the North Jetty potentially could be impacted due to the placement of the barge off-loading platform and the associated activities of barging in the jetty stone. News releases will be published in the local papers alerting recreational crab fishers that work will be taking place in the area and to avoid the construction area. The impact is unavoidable and should be minimal and limited in geographical extent during the estimated eight month construction period.

*(f) Compensation is provided to mitigate adverse impacts to coastal resources or uses;*

The total wetland area that may be impacted within the footprint of the jetty would be approximately 0.10 acres and outside the jetty footprint would be approximately 0.15 to 0.25 acres. The fill material will be quarry waste and removed upon completion of construction. Upon completion of the construction project, the area will be restored to its preexisting condition. Since the impact area to the wetlands outside the footprint of the jetty is minimal, no mitigation will be necessary.

*(g) Plans and sufficient performance bonding are provided to ensure that the site will be rehabilitated after the use or activity is completed; and*

Upon completion of the project, the barge off-loading platform will be removed and the site restored to its pre-construction condition.

*(h) The use or activity complies with all applicable local, state, and federal laws and regulations.*

The jetty repair activity complies with applicable local, state and federal laws.

### Pacific County Shoreline Master Program

The Federal Coastal Zone Management Act requires Federal activities that may affect coastal resources or uses be evaluated for consistency with relevant local Shoreline Master Programs. The Pacific County Shoreline Master Program includes a number of provisions that implement the Washington Ocean Resources Management Act. The Pacific County SMP provisions reviewed below.

### *Section 3 – Introduction to Policies and Regulations*

#### *B. Shoreline Policies*

The guidance states in part “The shoreline policies that follow have been crafted to recognize these unique and valuable shoreline resources and to protect them for benefit of future



generations. These policies are intended to be consistent with the Shoreline Management Act, Chapter 90.58 RCW.”

As stated above under State Policy, the project is consistent with this broad statement of policy as described in RCW 90.58. As discussed in detail under the discussion of Shorelines of Statewide Significance, the Project improves and stabilizes the federally authorized jetties and enhances the navigability of this water body and public interest. See above for complete analysis.

#### *Section 15 – Shoreline Works and Structures*

##### *B. Conservancy Environment*

*1. SWS are permitted on conservancy shorelines where they do not substantially change the character of the environment and where they are a necessary part of a project which is clearly dependent on a location near or adjacent to a body of water.*

The barge off-loading platform that will be constructed adjacent to the North Jetty will not substantially change the character of the environment. Upon completion of the project, the disturbed wetland area will be restored to its pre-construction condition.

*2. SWS allowed under Subsection 15.B.1 shall comply with all applicable standards and regulation given under Subsection 15.C.2.*

This project will comply with 15.C.2.

#### *Section 23 – Columbia River Estuary Segment*

*D. Use and Activity Regulations: Tables 1 and 2 of the PCSMP list the permitted uses and activities within the seven management designations created within Subsection 25.B.1 through Subsection 25.B.8. The following uses and activities listed under Tables 1 and 2 apply to this project:*

##### *Table 1 – Conservation/Aquatic Areas*

Low intensity construction, structural shoreline stabilization, fill (in conformance with Subsection 23.F.25) associated with Piling and Dolphin installation is all permitted activities under Table 1.

##### *Table 2 – Conservation/Shoreline Areas*

When the North Jetty was originally constructed between 1914-1917, the area on the north side of the North Jetty was constructed using sand and jetty stone. The North Jetty has only been repaired once since then in 1965. The pre-existing condition of the area was sand based and not wetland based. As a result of not repairing the jetty since 1965 and rough ocean conditions, the sand is slowly disappearing and being replaced by a tidally influenced wetland.

For short term repairs, this area may be temporarily filled for the placement of a barge off-loading platform. This platform will be removed and the area restored to its original pre-construction condition upon completion of the project. For the long-term rehabilitation project, the Corps may consider filling the wetland area on the north side of the North Jetty. However, the Corps will re-consult with WDOE in the event that filling the wetland becomes a viable option for the rehabilitation project.

*F.25 – Fill*

*The placement of fill shall comply with the following standards:*

*a. A fill shall be the minimum necessary to accomplish the proposed use.*

The area to be filled will be approximately 0.15 to 0.25 acres outside the existing jetty footprint along the north side of the North Jetty. This is the minimum amount of acreage necessary to accommodate the barge off-loading platform.

*b. Where existing public access is reduced, suitable public access as part of the development shall be provided. Fill requirements shall not be expanded in order to provide public access.*

Public access will not be reduced. Corps policy states that the jetties should not be climbed, played or fished upon. Warning signs are posted displaying the potential hazardous of climbing on the jetties and individuals do so at their own risk, therefore no additional access to the jetty will be provided.

*c.iv. Fill in aquatic areas shall be permitted only if required: Navigational structures and improvements.*

In order to provide access to the North Jetty to repair the areas that have deteriorated as a result of increased ocean wave action, as described above, the contractor may choose to construct a barge off-loading platform. Temporary fill in aquatic areas may be required in order to construct the platform and build the temporary road for trucks to transport the jetty stone to the repair areas.

*c.vii. In addition, fill in aquatic areas shall only be allowed if: a public need is demonstrated;*

As stated above and in the EA, the contractor performing the construction work will be given a choice of combination thereof of three options for constructing the repairs of the North Jetty. One of the options will be a barge off-loading platform and the construction of two jetty haul roads. These options will require the use of fill material along the North Jetty. Without this option being made available to the contractor the, because of rough bar conditions, the needed repairs at the jetty may not be possible. If in the event those repairs cannot be made, there is an increased risk of a jetty breach. Therefore, the fill of aquatic areas will be in the best interest of the public

*c.viii. No alternative upland location exist;*

As stated above and in the EA, one of the contractors options for delivery and placement of jetty stone will be via states roads into Cape Disappointment State Park. However, this option only provides for the delivery of jetty stone and not the placement of the stone. Because of the nature of jetty repair work, the placement of jetty stone cannot be accomplished using any upland site. Therefore, no upland site exists for placement of jetty stone.

*c.ix. Adverse impacts due to fill are minimized.*

The impacts as a result of the fill material potentially being placed along the north side of the North Jetty will be minimal. The material will only be in place approximately eight months and the area will be returned to its pre-construction condition.

*F.26 – Piling and Dolphin Installation*

*a. Piling and dolphin installation shall be permitted only in conjunction with a permitted use and b. Piling and dolphin installation shall be the minimum necessary to accomplish the proposed use.*

A tow boat and barge would deliver the stone to either jetty, where water depth, wave, and current conditions permit. During stone off-loading, the barge may be secured to four to eight dolphins situated within 200 feet of the jetty. The dolphins would be composed of multiple untreated timber piles driven to depth of 15-25 feet below grade, by a vibratory pile hammer or similar equipment. An impact hammer may be used at the final driving to ensure pilings are driven properly. The dolphins will be relocated as work advances along the jetty and would be removed at the conclusion of the work. The maximum number of dolphins present along the North Jetty during any one time during the work is estimated to be 10 to 20. Stone would be off-loaded from the “stone barge” by a crane (either land or marine based) and either placed directly within the jetty work or stock piled on the jetty crest for placement at a later time.

For marine-based stone placement, a lattice boom crane or large track hoe excavator would be fixed to a moored barge. The crane barge would be moored using either a series of anchors or the barge would be lashed to four to eight dolphins paralleling the jetty work area (same concept for a marine-based stone delivery). The marine-based crane would pick stones either directly from the stone barge or from stones stock-piled on the jetty crest and place the stones into the work area. The crane would advance along the jetty as work is completed.

The above actions are the minimum necessary to complete the construction work at the North Jetty.

## **Impact Assessment**

In addition to the impact assessments provided herein, an Environmental Assessment has been prepared in compliance with impact assessment procedures.

### **Statement of Consistency**

Based on the above evaluation, we have determined that the actions proposed in the *Draft Environmental Assessment for the Repair of the North and South Jetties at the Mouth of the Columbia River* are consistent with the enforceable policies of the approved coastal zone management programs of Washington, including the enforceable policies as specified in the local planning documents for Pacific County, Washington that are incorporated in the approved programs. The action is, therefore, consistent with the State of Washington's Coastal Zone Management Program to the maximum extent practicable.